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Shaping Our Space: Envisioning the New Research Library

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SUMMARY. Academic librarians are designing new spaces in their libraries, in some cases through the re-design and renovation of existing facilities, and in rarer cases, through the opportunity to design an entirely new building. At the Ohio State University, the hundred year old, central research library on campus is undergoing a major, $100 million transformation that involves elements of restoration, gutting, tear down, and new building. What are the architectural and library programmatic directions that are guiding this project and other space design projects in research libraries today? How much space should be devoted to print collections and services, and how much space should be devoted to digital services, information commons, and other new demands on library space? The answers are to be found through an exploration of emerging library practices of "content management" and "learning space design" that must be linked to the aesthetics and functionality of effective architecture.

CONTEXT: THE WILLIAM OXLEY THOMPSON MEMORIAL LIBRARY AT THE OHIO STATE UNIVERSITY

The Ohio State University (OSU) has the 18th largest collection volume count among research libraries in North America.[1] With a print collection approaching six million volumes, a significant online information service, and a total staff of 405, this large, public, research library system serves a population of 50,000 students and 27,000 faculty and staff. The physical plant of the library system is moderately decentralized for a large research library, with twenty facilities on the main campus and six regional campus libraries in the central region of the State. On the main campus in Columbus, Ohio, the library facilities range greatly in age and size, from the historic Orton Hall Library built in 1893 now housing a geology collection of 97,000 volumes (Figure 1), to a twelve year old consolidated Physical Sciences and Engineering Library of 385,000 volumes that is open seven days a week, twenty-four hours a day (Figure 2), to a brand new, design award-winning Architecture Library of 45,000 volumes[2] (Figure 3).

There is also a high-density book storage facility on the edge of campus that houses approximately three million less-frequently used items from the Libraries' collections. This facility, which is open seven days a week with three delivery services a day to central campus library facilities, is modular in design and has two storage modules in operation and almost full to capacity, but with potential for three more modules to be built, each capable of holding about 1.5 million volumes (Figure 4).

At the very center of the University's Columbus campus is the William Oxley Thompson Memorial Library, more simply called the "Main Library" or the "Thompson Library" (Figures 5 and 6).

It is the largest single library in the OSU system by facility size, housing humanities collections and several special collections along with the preservation and central public,

technical, and administrative services units of the library system. The Thompson Library provides accommodations for approximately two million volumes of collection, one hundred and seventy-five staff, and nine hundred user seats.

FIGURE 1. Orton Hall at Ohio State University

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FIGURE 2. Science and Engineering Library at Ohio State University

Used with permission.

The facility was built over the last century in three phases from east to west: the original building opened in 1913 (Figure 7), the central book stack tower in 1952 (Figure 8), and the western addition in 1977 (Figure 9). All told, the building has about three hundred thousand gross square feet of space.

FIGURE 3. Knowlton School of Architecture at Ohio State University

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FIGURE 4. Book Depository at Ohio State University

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While serving many generations of students and faculty well and becoming over the last century a familiar landmark building on campus, the Thompson Library started to draw criticism from users in the I 980s and 1990s for its inadequate space, convoluted design, and declining infrastructure, furnishings, and upkeep. A clear example of this decline can be seen in the before and after images of the Thompson Library's East Reading Room.

FIGURE 5. Thompson Library on the Ohio State University Oval

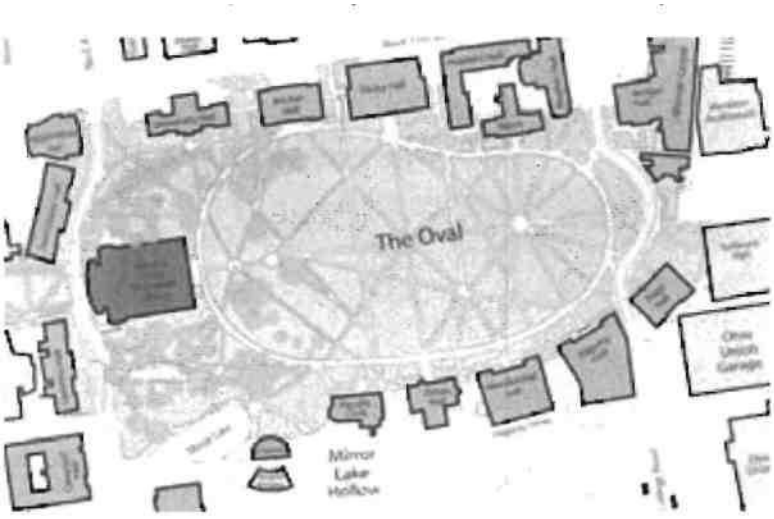

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FIGURE 6. William Oxley Thompson Memorial Library at Ohio State University

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FIGURE 7. Thompson Library, Original Building, 1910-1913, Allen & Collins Architects

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The most inspiring interior space in the original 1913 building, the east reading room was two stories high with a vaulted ceiling, oak bookcases and tables, and windows overlooking the campus's bucolic Oval (Figure 10). A student describing the East Reading Room (referred to as the "Reference Hall") in its first year of operation in 1913 wrote in the *Ohio State University Monthly:*

> *To return to school one rainy morning and enter the white corridor all alight with soft radiance, to mount the broad main stair was in itself an experience unreal Then at length to see the quiet grandeur of the vast Reference Hall, high windows to the east, chaste whiteness of the walls, and the high curve of vaulted arches overhead-this was the climax of impressiveness.*[3]

In 1965 this beautiful room was subdivided horizontally to create two one-story reading rooms with more floor space devoted to book stacks. Unfortunately the east reading rooms lost all their charm to clutter and overcrowding (Figure 11).

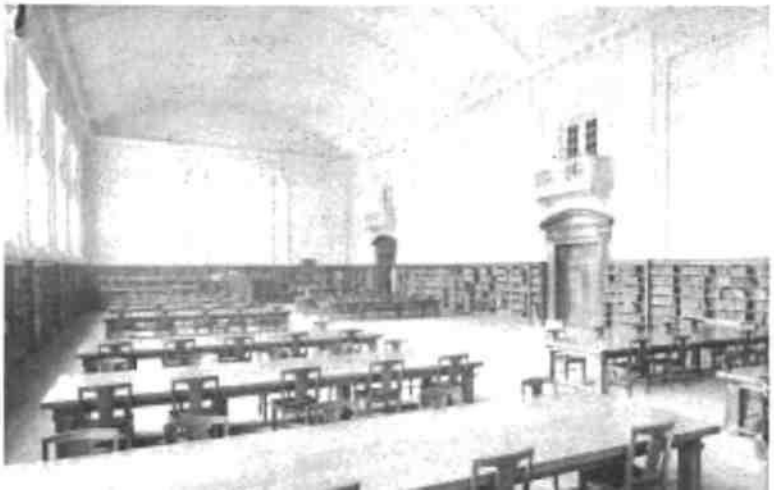
FIGURE 8. First Addition to Thompson Library, Stack Tower and Two Wings, 1948-1952, Howard Dwight Smith, University Architect

Used with permission.

FIGURE 9. Second Addition to Thompson Library, 1975-1977, Lorenz, Williams, Lively and Likens Architects

Used with permission.

FIGURE 10. East Reading Room at Ohio State University, 1913



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This example, by the way, points to an all too common problem in research libraries in the second half of the twentieth century that Scott Bennett identified in his study *Libraries Designed for Learning.* According to Bennett, "Library after library has sacrificed reader accommodations to the imperatives of shelving. The crowding out of readers by reading material is one of the most common and disturbing ironies in library space planning."[4] This was certainly the case in the Thompson Library at Ohio State.

By the late 1990s the facility situation in Thompson Library was becoming intolerable. In 1998 a University faculty committee issued a scathing report calling for a general and massive overall of the Thompson Library facility.[5] With a new University President and a new University Librarian coming onboard shortly after the report, the renovation of the Thompson Library became a real University priority in 2000, appropriately at the beginning of the 21st century. As the new University President, Brit Kirwan, stated in his memoir of his Ohio State University years,

> *When I arrived at Ohio State [in 1998], I saw an impressive library structure and visited it. I was positively stunned by how depressing and dilapidated and unimpressive a place it was, so incompatible with our aspirations. You can stand at the library and look at the renovated football stadium and new basketball arena. I asked myself, how can I be part of a university where this happens? For substantive and symbolic reasons, we had to act, and I told the senate that I would consider it a failure if when I leave, we haven't developed the funding for the library renovation.*[6]

FIGURE 11. East Reading Room, Upper Level at Ohio State University, post 1965

Used with permission.

Planning for the major renovation of the Thompson Library began in earnest in 2000. First there was a two-year feasibility study conducted by the architectural firms of Shepley Bulfinch Richardson and Abbot and URS Corporation. After reviewing the feasibility options, the University decided on an ambitious plan costing $100 million, with $70 million coming from State capital funds and $30 million from private fund raising. A three-year design phase came next, lead by the architectural firms of Gund Partnership and Acock Associates. It was during this phase that the University decided to stay within the basic footprint of the existing building, keeping the 1913 original building and the 1952 book stacks tower, but removing the eastern wings added in 1952, and tearing down the 1977 second addition and rebuilding this section with a new western front. Total space for the building would remain almost the same, with renovated building growing by only 8,000 square feet to 308,000 gross square feet. Also, the project would follow a one-phase construction strategy, meaning the building would be completely vacated and given over to construction during the actual rebuilding period scheduled for 2006 to 2009.

Throughout the feasibility study and the design phase, librarians at the University, as well as many administrators, faculty, and students, worked closely with the project architects particularly on programmatic issues. How were research libraries changing? How would the use of space in the renovated building affect other libraries and other units on campus? What did users of the library want in their re-made library? Was this an opportunity to reorganize collections and services of the entire library system? How was new information technology affecting the use of space in libraries? How best to answer these questions for the Thompson Library Renovation project, or for any other significant library space design project, occupies the rest of this paper.

CHALLENGE: BUILDING OR REBUILDING A RESEARCH LIBRARY IN A CHANGING TECHNOLOGY AND HIGHER EDUCATION ENVIRONMENT

In any library space design project today, certain basic challenges must be faced and met. These include:

1. financial challenges,
2. architectural design challenges,
3. the impact of changing information technology on library services and space needs,
4. multiple constituents' differing library needs and perceptions of what the "library" should be, and
5. the effect of new learning and research patterns at the University on library services and space.

Although all these challenges can be difficult and complex, the more factual or explicit ones, such as financial and architectural challenges, tend to be easier to uncover and express, if not overcome. New buildings, renovations, or remodelings are often constrained or partly defined by the site, by the existing architecture, and certainly by the level of funding available. The budget and architecture for a project should, of course, respond to the more tacit programmatic

challenges of information technology demands and user needs, but in the end, dollars, real estate, steel, and concrete do put hard and limiting definitions on any space design project.

For librarians, the tacit programmatic challenges in library space design are the most interesting and most important. Architects, contractors, and funders want to know what to build and how much it will cost, and they should ask librarians to answer these question by having them describe what a 21st century library and its spaces should look like now and into the foreseeable future. However, the tacit programmatic answers are usually not as clear and straight forward as are the answers to the explicit financial and architectural questions. For example, ask constituents of the research library-students, faculty, alumni-what they think the library should be, and you are likely to get multiple and conflicting answers today. In the Thompson Library Renovation project, all constituent groups were involved from the beginning, participating in surveys, focus groups, town meetings, and individual sessions during the feasibility study and the design phase. Here are some representative examples of their opinions and recommendations:

- *Books (again, things you can hold in your hands, not a text that is one click away) are highly underrated in our society . . . Our society's rampant and depressing anti-intellectualism . . . Save the books please.* - Graduate student, 2004.
- *Actually it has been years since I needed a physical library. I check out books on-line and they come to my office. I download journal articles over the Internet. My main reason for visiting the library now is to visit the coffee shop.* - Faculty member, 2004.
- *Keep the stacks.* - Alumnus, 2003.
- *Get rid of the stacks-it is one of the creepiest places I have ever been.* - Anonymous, 2003.
- *There should be group study rooms. I often need to work with my classmates in group projects.* - Undergraduate, 2002.
- *As graduate students spend a large part of their time in the library, it is only fair that they have access to quiet, accessible work spaces.* - Graduate student, 2003.
- *Why can't you just leave the library alone? All anyone at OSU cares about anymore is 'Preparing for the future! Making things modern!' If I would have known that my four years at OSU would have been nothing but construction sites around campus. I would have chosen another university*.-Undergraduate, 2004.[7]

Clearly there is not consensus among constituents about the future of the research library. The library today is in a state of transition, largely brought on by the rapid advance of networked digital information technology. In a transition period, constituents, as well as librarians, are often inconsistent and confused about future directions. OCLC's recent study *Perceptions of Libraries and Information Resources* points this out very well. While students and the general public are turning increasingly to networked digital information services for their information needs, these same constituents still associate "library" with "books" and have what might be called an "nostalgic" perception of the library. According to Cathy De Rosa, one of the principal contributors to the OCLC report, *"Libraries' mindshare in this new self-service e-resource environment is also clear: behind the newer entrants. Libraries' continued importance as trusted information provider is evident and, overall, users have positive, if outdated, views of the 'Library.'* "[8] I heard a similar view expressed by a library director who designed and opened a new research library in the 1990s. When asked for his advice about getting faculty involvement

in design planning, the director's comment was that it is critical to get such input but I should keep in mind that faculty are likely to design the library they fondly remember using as graduate students several decades in the past.

ENVISIONING: THE BEST SPACE AND PROGRAMMATIC LIBRARY DESIGN FOR TODAY'S AND TOMORROW'S STUDENTS AND FACULTY

How do librarians make sense of this confusing and sometimes contradictory input from user constituencies about the 21st century library? After several years of intensive study that involved considerable constituent input, usage trend data, professional reading, travel to see new library space, and discussions with library consultants and architects, the Thompson Library Renovation project staff gradually found and settled on two basic programmatic themes that helped organize and give meaning to all the information and design ideas they were gathering. These two basic themes were:

1. new practices in collection and content management, and
2. creating a "learning" organization and "learning" spaces in the library.

These two themes lead us to interesting programmatic reorganization and redeployment of collections, services, and staff in the Thompson Library and in the whole library system, and they helped us inform the work of our architects in designing space that we think is beautiful, functional, and flexible for today's and tomorrow's academic library user.

NEW PRACTICES IN COLLECTION AND CONTENT MANAGEMENT

The "collection" has been a defining element of a research library program. In several earlier articles I have described in some detail the changing nature of collection's work in the research library, arguing that we must see this element of our responsibility as having evolved from collection development, to collection management, to what today should be, knowledge or content management.[9] For the purposes of this paper, I will limit my remarks to some of the elements of knowledge or content management that are most directly affecting space design issues today.

It is really only now, at the beginning of the 21st century, that research librarians can look at multiple motivations for building new space or redesigning old library space. Because until only recently, accommodating growing print collections was what research library facilities were pretty much single-mindedly about. Today that situation is changing with new storage options for print material, consortial collection building, and the new demands on librarians for digital content management and services.

Certainly print as a medium for scholarship has not gone away, and doesn't appear to be going away in the near future. Large research libraries in the Association of Research Libraries have steadily added a hundred thousand or more new print volumes to their collections each year.[10] What is changing is how these print volumes are stored and shared. By 2000, the Thompson Library facility at Ohio State, like many other central research library facilities, was overcrowded with book stacks, and the stacks themselves were overcrowded with **too** many volumes. The Thompson Library was estimated at its peak of overcrowding to hold more than

two and half million print volumes, but at the expense of reader seating and proper preservation shelving (Figure 12).

The OSU library system has been fortunate to be part of the OhioLINK consortium. One important component of this state-wide library cooperative is a system of five regional library depository facilities, where lesser used material can be stored and serviced efficiently in high density, preservation quality space. One of these depositories is located in central Ohio on the edge of the OSU campus and managed by the OSU Libraries (see Figure 1). Module two of the central Ohio book depository came on line in 2002 (Figure 13), and the OSU librarians began an aggressive program of transferring appropriate material from its central campus libraries, particularly from the Thompson Library, to the book depository.

Over the last decade, the collection size in the Thompson Library has been reduced from over two million volumes to approximately one and half million volumes. This transfer of collections, which became more aggressive in the last four years, was done to prepare for the renovation of the Thompson Library, but for other important reasons as well: to create more reader and information technology service space in the central campus libraries and to better preserve collections through better storage. Overcrowding does not serve collections or users well.

FIGURE 12. Book Stacks in Thompson Library, 2001

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FIGURE 13. High Density, Preservation Storage in the Book Depository

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The book depository program gives collection managers the useful option of keeping core, frequently-used collections close to users in proper storage space configurations in central campus library facilities, while storing lesser-used material more efficiently off campus but serviceably through the online catalog and quick document delivery service. The book depository option played a critical role in our space allocation decisions for collection storage, helping us create a proper balance with other programmatic needs in the new design of the Thompson Library.

Consortial arrangements and effective document delivery services, along with new storage options, have become key factors in content management at Ohio State both for print and digital collections. Everything does not have to be physically in a campus library or in an institution's book depository anymore to be part of one's collection, although this is still a controversial view for some constituents and librarians. For academic libraries in Ohio, OhioLINK enables its eighty-eight members to share a common library automation and request system, making discovery, request, and delivery of print material from any of its locations simple, quick, and inexpensive. Patrons do direct requests, and resource sharing has steadily increased since 1994 (Figure 14).[11]

Because resource sharing among OhioLINK libraries is made so easy and quick, all types of constituents participate, even undergraduates who often need library material at the last minute. Undergraduates account for almost 40% of the borrowing through OhioLINK (Figure 15).

Resource sharing is really an essential component of the content management program at Ohio State University. Our own commitment to library cooperation in collection management combined with our membership in OhioLINK makes us a standout among the Association of Research Libraries when it comes to resource sharing, with our lending and borrowing statistics much above the average ARL transaction level (Figure 16).

With a new emphasis on knowledge or content management, the OSU Libraries has expanded its responsibilities to collect and preserve more types and formats of academic information. The Libraries has a digital repository program called the Knowledge Bank and is currently working on a faculty expertise system called OSU Pro.[12] The space implications for a knowledge management program include, in our case, more space to house partnership organizations, more office space for information technology staff, more information technology rich public learning spaces, and a more robust power and data infrastructure throughout our facilities.

FIGURE 14. OhioLINK Patron Borrowing, 1994-2003 *Filled Online Patron Borrowing Requests*

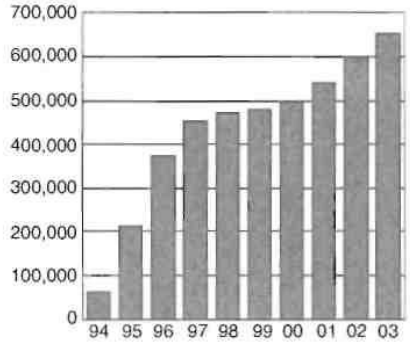


FIGURE 15. OhioLINK Borrowing by Patron Type, 1994-2003 *Online Patron Borrowing by Patron Type*

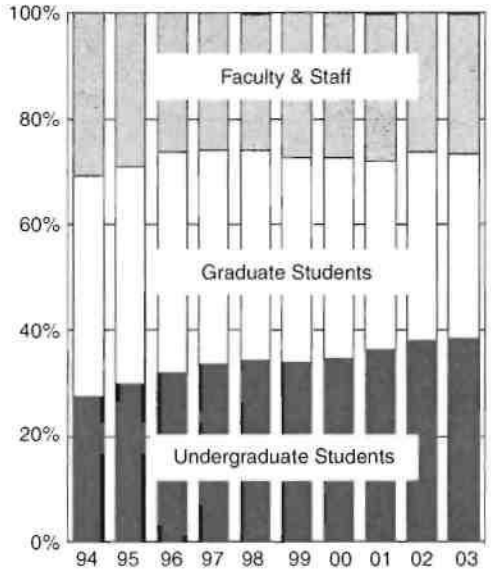
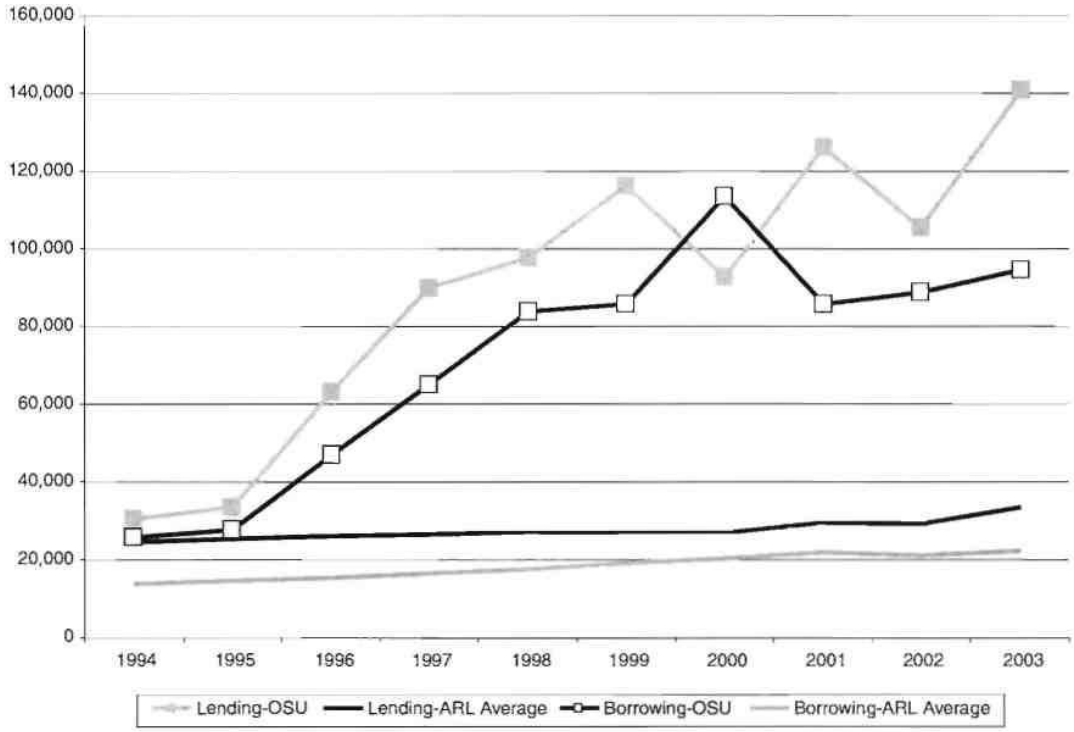


FIGURE 16. OSU and ARL Interlibrary Lending/Borrowing Statistics, 1994-2003



In the renovation of the Thompson Library, for example, we decided to bring the senior administrations of both the University Libraries and the Chief Information Officer together in a common office suite in this facility, since we do so much work together on knowledge and content management services.

CREATING A LEARNING ORGANIZA TION AND NEW LEARNING SPACES

Managing our collections and more types of content in new ways and integrating these information resources with new space design opportunities allows us to create some exciting learning spaces in our library facilities. By limiting the size and growth of print collection storage in our campus libraries, we have more space for the amount and variety of public seating, services, and programs offered in our facilities around the core information resources that remain. In the renovated Thompson Library, for instance, there will be more space, front and center, for special collections services, better user and browsing space in the open stacks, and more opportunities for exhibits, displays, lectures, and seminars that make good use of the Libraries' print and digital resources. Already our design planning for the Thompson Library has led us to consider and offer more programs in our facilities that support learning and attract more students and faculty to library resources and services. We have in the last few years added a cafe to the library and initiated a leisure reading collection, a weekly read aloud program, a large-course textbook open reserve, displays of student research projects, more student education programs, more academic lectures, and an expanded document delivery program called Article Express.[13]

All this is really part of an attempt to create more responsive learning space and programs in our library facilities. In our planning and design work for the Thompson Library Renovation, we were very influenced by the recent work of Scott Bennet on library space design. We found his study *Libraries Designed for Learning* extremely helpful, and we came to use him as a library consultant to our renovation project. Bennet's basic contention is that in the 1990s library space design tended to look back rather than forward. Bennet observes that while in the 1990s "higher education saw transformative changes in student learning, faculty teaching methods, and information technology," library space designs "were not fundamentally different in concept from those designed in the 1960s."[14] Certainly information technology has changed, and while one may question how "transformational" teaching and learning in higher education really has been in the last twenty years, there are at least signs of and more experimentation with new active learning processes by faculty and students.

In our space design planning at Ohio State, we rallied around three activities in creating new learning space. First, we came to place a greater emphasis on more space for and more attention to the social learning needs of students. This meant a cafe in the library, better amenities and upkeep, more exhibit and display space for student use, much more collaborative spaces for group work, but also the need for traditional quiet study spaces. For our particular renovation project in Thompson Library, we are doubling the number of user seats in the facility, going from about one to two thousand seats, and we are reducing the overall amount of space allocated to collection storage.

Second, we were attracted to the wave of Information or Learning Commons being created in academic libraries in the last five years. These information commons are technology rich, often with one-stop help for reference or technology assistance that is managed as a partnership between the library and information technology units on campus. Our project team visited a good number of these new Information Commons, and we were most impressed with the installation at Georgia Institute of Technology Library in Atlanta.[15] At Georgia Tech we found an Information Commons that had become a real and very popular center for learning activity outside the classroom at that University. With a rich array of productivity and

multimedia software, the Commons at Georgia Tech receives heavy use during its 24 X 7 schedule. Most importantly, I think, for its success as a real learning space, is its true partnership of library and information technology staff with well trained and motivated student assistant help.

And third and finally, we rallied around developing library staff commitment to learning as a key value in our organization. We created a library working group, the OSU Libraries Learning Group, to look at how best we should deploy our staff and space for learning in the future.[16] This task force issued a very influential report in 2004 that among other things recommended:

- Setting learning as a priority in the Libraries: learning over service approaches.
- Experimentation in use of space: design decisions be made in ways that maximize possibilities for future change.
- Collaboration with other campus agencies.
- Bringing students, faculty, and librarians together in the library: shift in behavior toward welcoming contact with students in the library.

After five years of intense and serious space design planning, I can look back now and summarize the concepts and programmatic thrusts that I think most influenced or gave meaning to our work. The following five concepts helped us work with our constituents, funders, and architects to design library space that we hope will be beautiful, functional, flexible, and higher responsive to the needs of students and faculty in the 21st century.

1. An emphasis on content management, learning, and outreach responsibilities of research librarians, staff, and student assistants: new assignments and accountability, redeployment of personnel, more collaborative team efforts.
2. Consolidation of collections and service points: in our Thompson Library Project we are consolidating humanities and social sciences collections, a number of special collections areas, and consolidating and reducing the number of reference and circulation service points.
3. More collaboration with other libraries and other campus agencies.
4. Primacy of public space in library facilities that is varied, flexible, and information technology rich.
5. Creating flexible "learning space" that brings students, faculty, librarians, and information resources and services together for active learning.

LIBRARY ARCHITECTURE FOR BEAUTIFUL, FUNCTIONAL, AND FLEXIBLE SPACE

I will end as it should end with the architecture itself, in this case the architectural plans for the transformed William Oxley Thompson Memorial Library. After more than five years of planning and design, the remaking of the central library at Ohio State Universtiy is about to begin. Reconstruction will take three years, and during that time period the building will be completely vacated with all collections, staff, and services relocated to other facilities on campus. (The logistics of a one-phase, massive library renovation project are for another story to tell.) In 2009, I believe we will move back into a truly beautiful, functional, and flexible research library for the 21st century. The eastern facade of the building will retain and improve its

original Renaissance Revival style (Figure 17). Two small wings added in the 1950s will be removed, and windows will be added and enlarged on the original building and stacks tower.

The western facade of the building will change dramatically (Figure 18). The 1977 addition to the west of the stacks tower will be torn down, and a new, more complementary addition will be built. The new western facade will present a second "front" for the facility, pedestrian friendly, with a new entrance from the west, a new cafe-, and a dramatic reading room and roof garden on this side of the building.

Two atria with large sky lights will be constructed on either side of the central stacks tower, and the first six levels of the stacks tower will be open to the atria, creating a much more unified, open, and light filled building (Figures 19 and 20).

The stacks tower will house open, general collections in the humanities and social sciences and below ground will be compact closed stack storage for special collections material. The first five levels of the building will house special collections services, general library services, visible and easy to find staff offices, and a great variety of public spaces that will include information commons, quiet reading areas, group and instruction rooms, and expanded exhibit and display space. Finally, there will be three special, inspiring reading rooms in the library: the restored, traditional East Reading Room (Figure 21), a contemporary West Reading Room (Figure 22) in the new west addition, and a spectacular Tower Reading Room at the top of the stacks tower (Figure 23).

FIGURE 17. Eastern Facade of the Renovated Thompson Library

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FIGURE 18. Western Facade of the Renovated Thompson Library

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FIGURE 19. Cross-Section of the Renovated Thompson Library

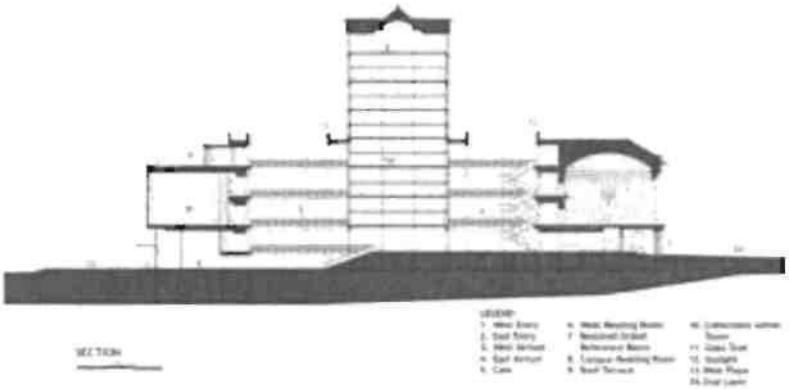

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FIGURE 20. Atrium Space in the Renovated Thompson Library

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FIGURE 21. East Reading Room in the Renovated Thompson Library

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FIGURE 22. West Reading Room in the Renovated Thompson Library

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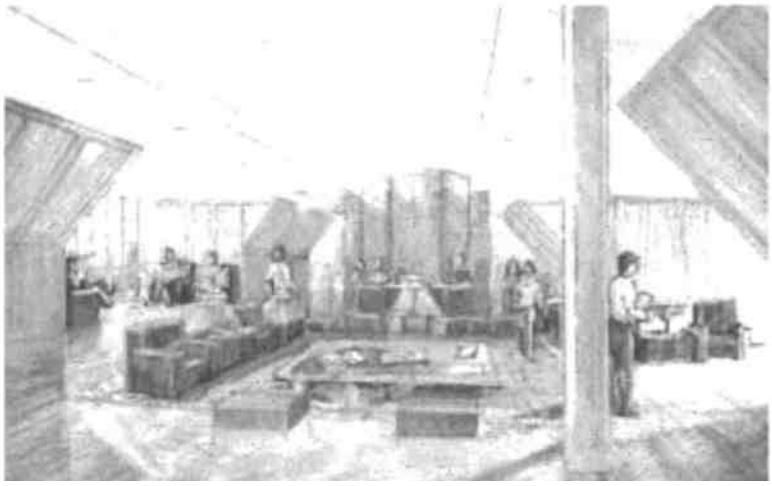
FIGURE 23. Tower Reading Room in the Renovated Thompson Library



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NOTES

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2. The Ohio State University's new Knowlton School of Architecture Library received the Award of Excellence in the American Institute of Architects and the American Library Association's 2005 Library Building Award Program.

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8. OCLC Online Computer Library Center, *Perceptions of Libraries and Information Resources,* Dublin, Ohio: OCLC, 2005, p. ix.

9. Joseph J. Branin, "Knowledge Management in Academic Libraries: Building the Knowledge Bank at the Ohio State University," *Journal of Library Administration,* Vol. 39, No.4, 2003, pp. 41-56. See also Joseph J. Branin, France Groen, and Suzanne Thorin, "The Changing Nature of Collection Management in Research Libraries," *Library Resources & Technical Services* 44, January 2000, pp. 23-33.

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12. The Ohio State University Libraries' Knowledge Bank <https://kb.osu.edu/ dspace/index.jsp> and OSU Pro <https://pro.osu.edu/>.

13. The Ohio State University Libraries' Article Express <https://www.illiad.osu.edu/illiad/osu/ArticleExpressLogon.html>.

14. Scott Bennel. *Libraries Designed for Learning,* p. 2.

15. Georgia Institute of Technology, Library and Information Center, Library West Commons <http://www.atlantahighered.org/members/git_library.asp> Tech Information Commons.

16. Scott Bennet, *Report of/lie OSU Libraries Learning Group,* Columbus, Ohio: The Ohio State University Libraries, 2004 <https://kb.osu.edu/dspace/handle/1811/ 202>.